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# Redescription of *Neoaliturus alboflavovittatus* (Lindberg, 1954) (Homoptera: Auchenorrhyncha: Cicadellidae: Deltocephalinae: Opsiini) based on the material from Kazakhstan, with the establishment of a new synonym

# Переописание *Neoaliturus alboflavovittatus* (Lindberg, 1954) (Homoptera: Auchenorrhyncha: Cicadellidae: Deltocephalinae: Opsiini) по материалам из Казахстана с установлением нового синонима

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KEY WORDS: Homoptera, Auchenorrhyncha, Cicadellidae, *Neoaliturus*, new synonym.

КЛЮЧЕВЫЕ СЛОВА: Homoptera, Auchenorrhyncha, Cicadellidae, *Neoaliturus*, новый синоним.

ABSTRACT. Based on investigation of materials on *Neoaliturus dumetosus* Mityaev, 1975 from Southern Kazakhstan, including a series of paratypes, a synonymy *N. alboflavovittatus* (Lindberg, 1954) = *N. dumetosus* Mityaev, 1975 **syn.n.** was established; illustrated description of this species is provided.

РЕЗЮМЕ. На основании исследования материалов по *Neoaliturus dumetosus* Mityaev, 1975 из Южного Казахстана, включая серию паратипов, установлена синонимия *N. alboflavovittatus* (Lindberg, 1954) = *N. dumetosus* Mityaev, 1975 **syn.n.** ; приведено иллюстрированное описание этого вида.

## Introduction

Large and diverse genus *Neoaliturus* Distant, 1918 (Homoptera: Auchenorrhyncha: Cicadellidae: Deltocephalinae: Opsiini) includes many taxa of unresolved status. Some of them belong to groups of cryptic species similar in morphological traits; others are poorly studied forms, the identification of which is difficult. The latter include a taxon with a distinctive coloration, *N. dumetosus* Mityaev, 1975, described based on a series of females collected from *Lycium ruthenicum* Murray (Solanaceae) in Southern Kazakhstan, the Charyn River Valley, Sartagoy (=Sarytogay) [Mityaev, 1975]. In annotated lists this species was also recorded from the Syr-Darya River Valley and from the region south of the Balkhash Lake [Mityaev, 2002, 2015], but no drawings of male genitalia were published elsewhere.

*Neoaliturus alboflavovittatus* (Lindberg, 1954), which is similar in coloration to *N. dumetosus* and was described from the Canary Islands [Lindberg, 1954] was recorded by Mityaev [2002, 2015] from almost the entire territory of Kazakhstan and from Iran.

Recently, *N. alboflavovittatus* was redescribed in detail based on materials from Iran (Kerman and Khuzestan Provinces); in this work it was recorded only from Iran and the Canary Islands [Pakarpour Rayeni, Seraj, 2016].

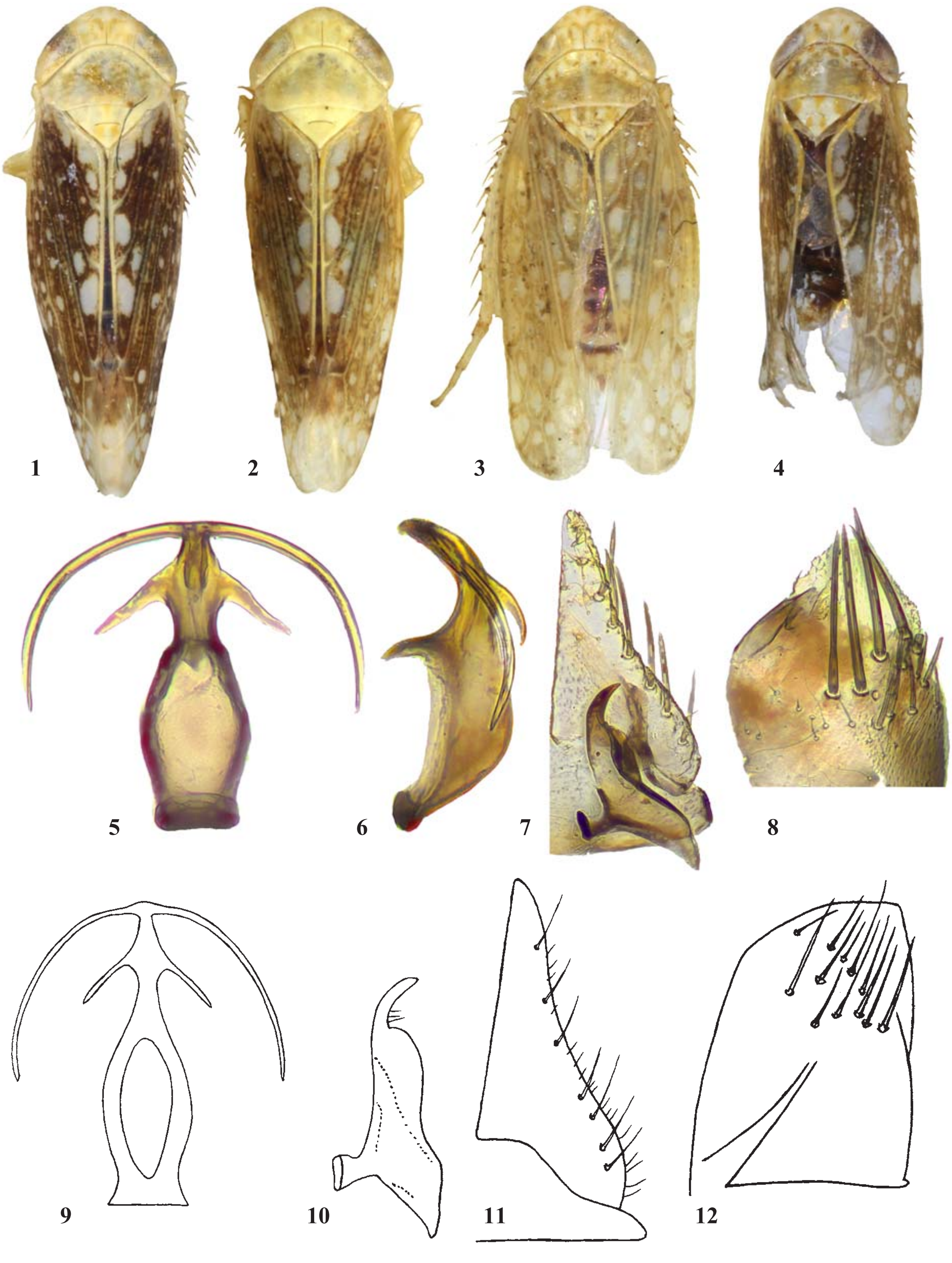
Investigation of paratypes of *N. dumetosus* and of some other materials on this species from Kazakhstan, including two males, allowed identification of this poorly studied taxon and establishing its synonymy under *N. alboflavovittatus*.

*Neoaliturus alboflavovittatus* (Lindberg, 1954)
Figs 1–12.

*Circulifer alboflavovittatus* Lindberg, 1954: 226.
*Neoaliturus dumetosus* Mityaev, 1975: 582, **syn.n.**

MATERIAL EXAMINED. Paratypes, 10 ♀♀, Southern Kazakhstan, the Charyn River Valley, Sarytogay, 13.VI.1963, from *Lycium ruthenicum*, I.D. Mityaev; 7 ♀♀, Southern Kazakhstan,

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Figs 1–12. *Neoaliturus alboflavovittatus* Lindb. 1 — female paratype of *N. dumetosus*, dorsal view; 2–3 — females from the Syr-Darya River Valley; 4 — same, male; 5, 9 — penis, back view; 6 — same, lateral view, 7 — right half of valve, genital plate and style; 8, 12 — pygofer lobe; 10 — style; 11 — right half of valve and genital plate. Figs 9–12 — after Lindberg [1954], modified.

Рис. 1–12. *Neoaliturus alboflavovittatus* Lindb. 1 — самка, паратип *N. dumetosus*, вид сверху; 2–3 — самки из долины Сыр-Дарьи; 4 — то же, самец; 5, 9 — пенис сзади; 6 — то же, сбоку, 7 — правая половина вальвы, генитальная пластинка и стилус; 8, 12 — доля пигофора; 10 — стилус; 11 — правая половина вальвы и генитальная пластинка. Рис. 9–12 — по Линдбергу [Lindberg, 1954], с изменениями.

Turkestan Region, the right bank of the Syr-Darya River near Baltakol Village, 16.V.1966, from *Lycium*, I.D. Mityaev; 2 ♂♂, 4 ♀♀, Southern Kazakhstan, the flood-land of the Syr-Darya River in the environs of Shardara (= Chardara) Town, 18.VI.1983, from *Lycium*, I.D. Mityaev.

All materials were identified by I.D. Mityaev and are deposited in the Zoological Museum of M.V. Lomonosov Moscow State University.

DESCRIPTION. Females from the type series pale yellow with chocolate brown forewings. Apical parts of forewings paler, veins pale, all cells have oval or round white spots of different size; the largest spots located along back margin of clavus (Fig. 1). In females from the Syr-Darya River Valley forewings much paler, sometimes almost yellow, with white spots in cells less distinct (Figs 2–3).

Male darker than female, with brown pattern on head, pro- and mesonotum, forewings brown with white spots as in females from the type series (Fig. 4).

Basal half of main part of penis wide, apical half rather narrow, with two processes bent backward; penis stems form full semicircle (Figs 5–6). Genital plate narrow triangular, style of typical shape for this genus (Fig. 7). Pygofer lobe with almost reduced process in ventral part of back margin (Fig. 8)

Body length (including forewings): ♂♂, 2.6–3.1 mm; ♀♀ paratypes, 3.4–3.6 mm, ♀♀ from the Syr-Darya River Valley, 3.1–3.4 mm. It should be noted that the original description indicates that the body length of females is 3.1–3.2 mm [Mityaev, 1975].

BIOLOGY. The specimens studied were collected from *Lycium*. In Kazakhstan, *N. alboflavovittatus* was recorded from *Artemisia* spp. (Asteraceae) and halophytic Chenopodiaceae [Mityaev, 2002]; in Iran, it was swept on weeds in palm and citrus orchards or collected in light trap on potato fields [Pakarpour Rayeni, Seraj, 2016], which indicates its wide host preferences. Since various species of *Lycium* are widely represented in the desert zone, including the Canary Islands [Arechavaleta et al., 2010: 149; Verloove, 2017], the finding of *N. alboflavovittatus* on *Lycium* outside Southern Kazakhstan is also quite possible.

DISTRIBUTION. The Canary Islands [Lindberg, 1954], Iran [Mityaev, 2002, 2015; Pakarpour Rayeni, Seraj, 2016], Southern Kazakhstan [Mityaev, 2002, 2015 and the present paper]. Also, was recorded from Northern, Central and Eastern Kazakhstan [Mityaev, 2002, 2015], but we have not seen any specimens from these regions.

REMARKS. Both in coloration and in the shape of male genitalia, *N. dumetosus* fully corresponds to the description of *N. alboflavovittatus* [Lindberg, 1954] (cf. Figs 5–8 and 9–12); for this reason we establish a synonymy of these two names. The only difference is that specimens from the Canary Islands are larger (♂, 4.1 mm; ♀, 4.5 mm), but this can be explained by the fact that the climate of the Canary Islands is much warmer than in Kazakhstan, where this species exists at the extreme northeastern boundary of its range.

Since the penis stems in *N. alboflavovittatus* form a semicircle, according to Emelyanov [1999], this species must be attributed to the subgenus *Neoaliturus* s.str.

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